

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A non-volatile memory comprising:
an array of non-volatile memory cells; and
a stack controller coupled to receive an address and to determine an appropriate
address for accessing values in a stack stored in a subset of the array of non-volatile
memory cells, the stack having a stack depth configured in a nonvolatile memory to store
parameter values, where each memory write invalidates previous data and further
wherein the stack controller updates a pointer to a first valid word in the stack, the stack
controller to maintain the stack utilizing two blocks of the non-volatile memory cells and
to cause a first block to be erased when each word within the first block is invalid and the
values in the stack are stored in a second block of the non-volatile memory.

2. (Currently Amended) The non-volatile memory stack of claim 1 wherein
the first block and the second block nonvolatile memory includes a pair of blocks that are
erased independently.

- 3-4. (Canceled)

5. (Currently Amended) The non-volatile memory stack of claim 1, the stack

controller further including a register to store an offset value used to generate an address for words in the nonvolatile memory.

6. (Canceled)

7. (Currently Amended) The non-volatile memory stack of claim 1, wherein
the further including a smart stack controller is configured to distribute write cycles
across multiple blocks of the nonvolatile memory.

8-10. (Canceled)

11. (Currently Amended) A method to manage a stack in a non-volatile
memory having an array of cells logically organized as blocks, the method comprising:
receiving an address corresponding to an access to the stack;
maintaining a nonvolatile stack to store parameter values in words of a
nonvolatile memory where a write of the nonvolatile stack invalidates previous
instructions or data stored in the nonvolatile stack;
updating a pointer to a first valid word in the stack
maintaining the stack utilizing two blocks of the non-volatile memory cells and to
cause a first block to be erased when each word within the first block is invalid and the
values in the stack are stored in a second block of the non-volatile memory.

12. (Currently Amended) The method nonvolatile stack of claim 11 wherein a

memory pool in at least first and second blocks of the nonvolatile memory are sized to balance cycling and data retention capabilities with a write specification.

13. (Currently Amended) The ~~method nonvolatile stack~~ of claim 11 further ~~comprising including a stack controller to distribute~~ distributing write cycles across multiple blocks of the nonvolatile memory.

14. (Currently Amended) The ~~method nonvolatile stack~~ of claim 11 wherein the nonvolatile memory maps a received address to determine memory blocks to be written.

15-31. (Canceled)

32. (Previously Presented) The stack of claim 1 wherein the nonvolatile memory is a polymer memory that includes ferroelectric memory cells.